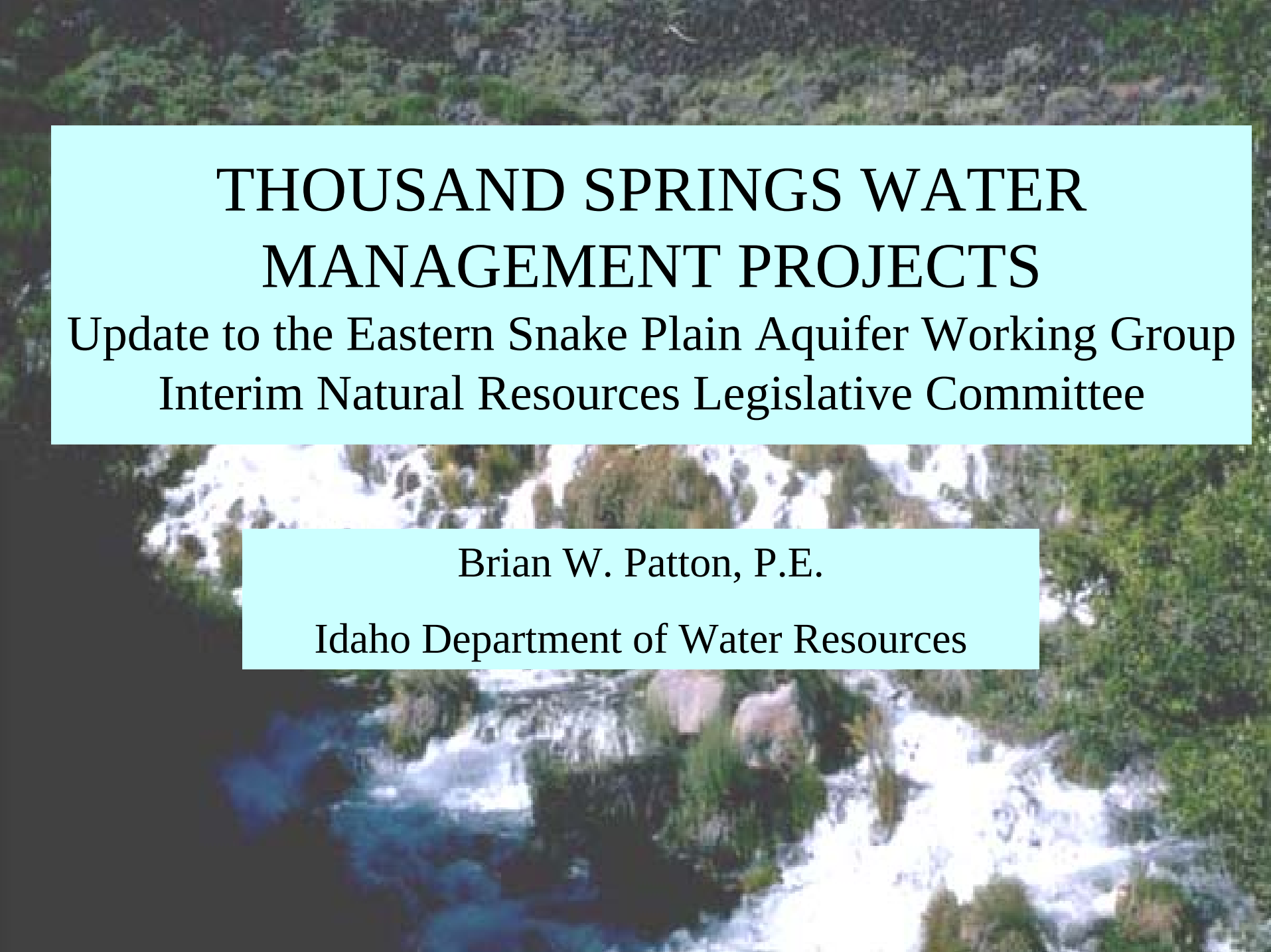
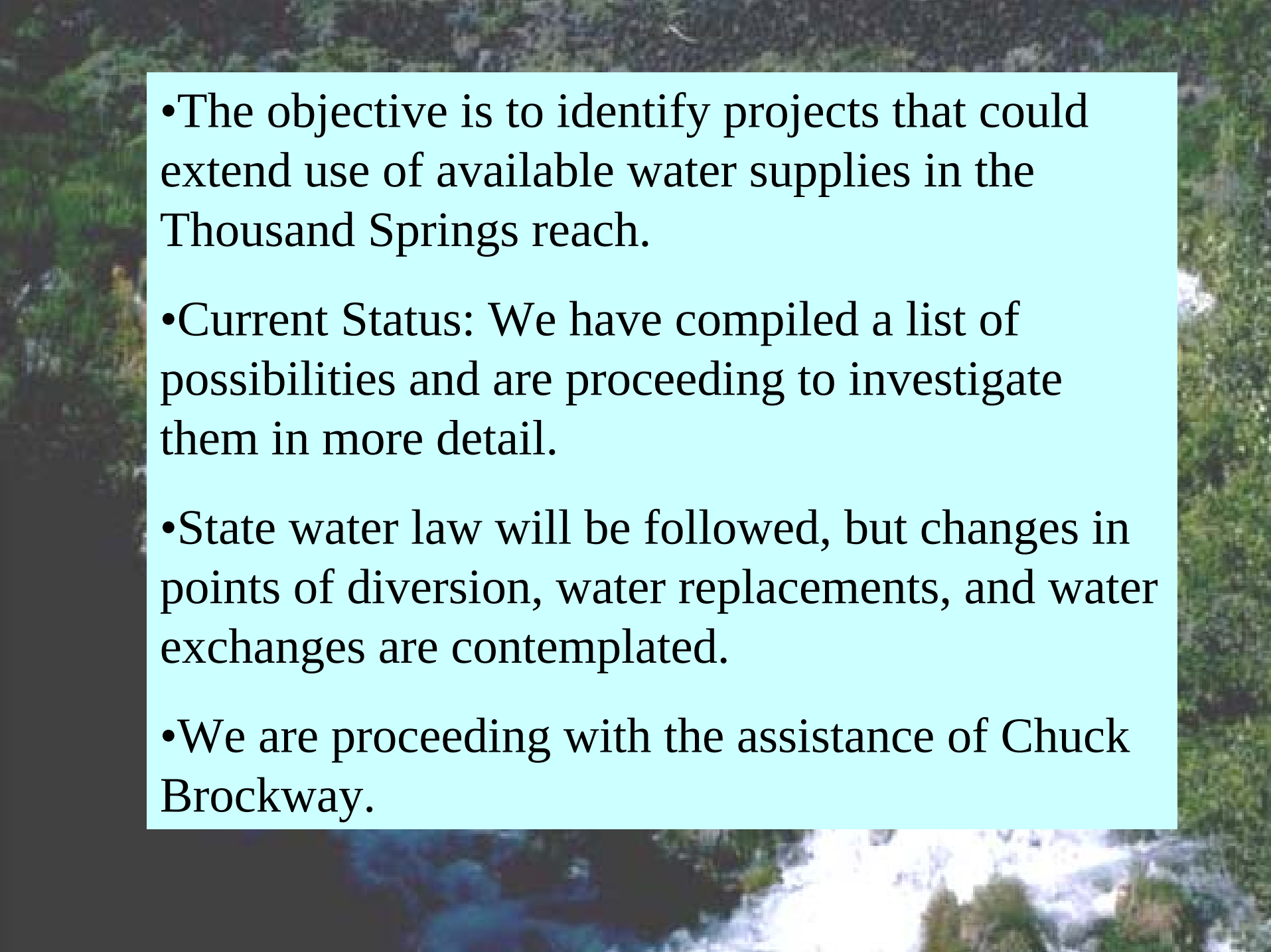


THOUSAND SPRINGS WATER MANAGEMENT PROJECTS

Update to the Eastern Snake Plain Aquifer Working Group
Interim Natural Resources Legislative Committee

Brian W. Patton, P.E.

Idaho Department of Water Resources



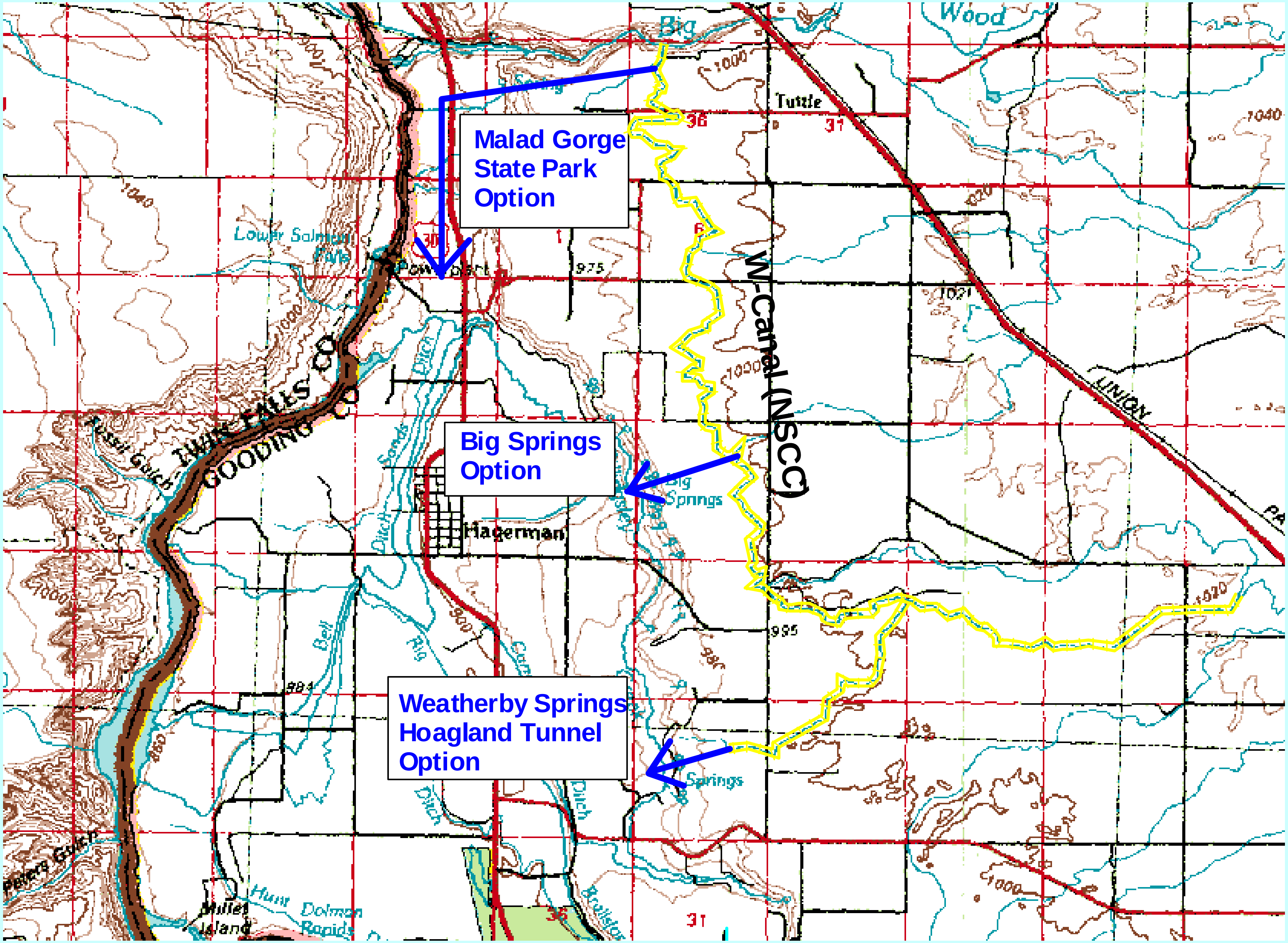
- The objective is to identify projects that could extend use of available water supplies in the Thousand Springs reach.
- Current Status: We have compiled a list of possibilities and are proceeding to investigate them in more detail.
- State water law will be followed, but changes in points of diversion, water replacements, and water exchanges are contemplated.
- We are proceeding with the assistance of Chuck Brockway.

W-Canal Options

- Use W-Canal spill and rental water delivered through the North Side Canal System.
- Deliver to irrigation users in the Hagerman Valley to offset their use of spring water for irrigation.

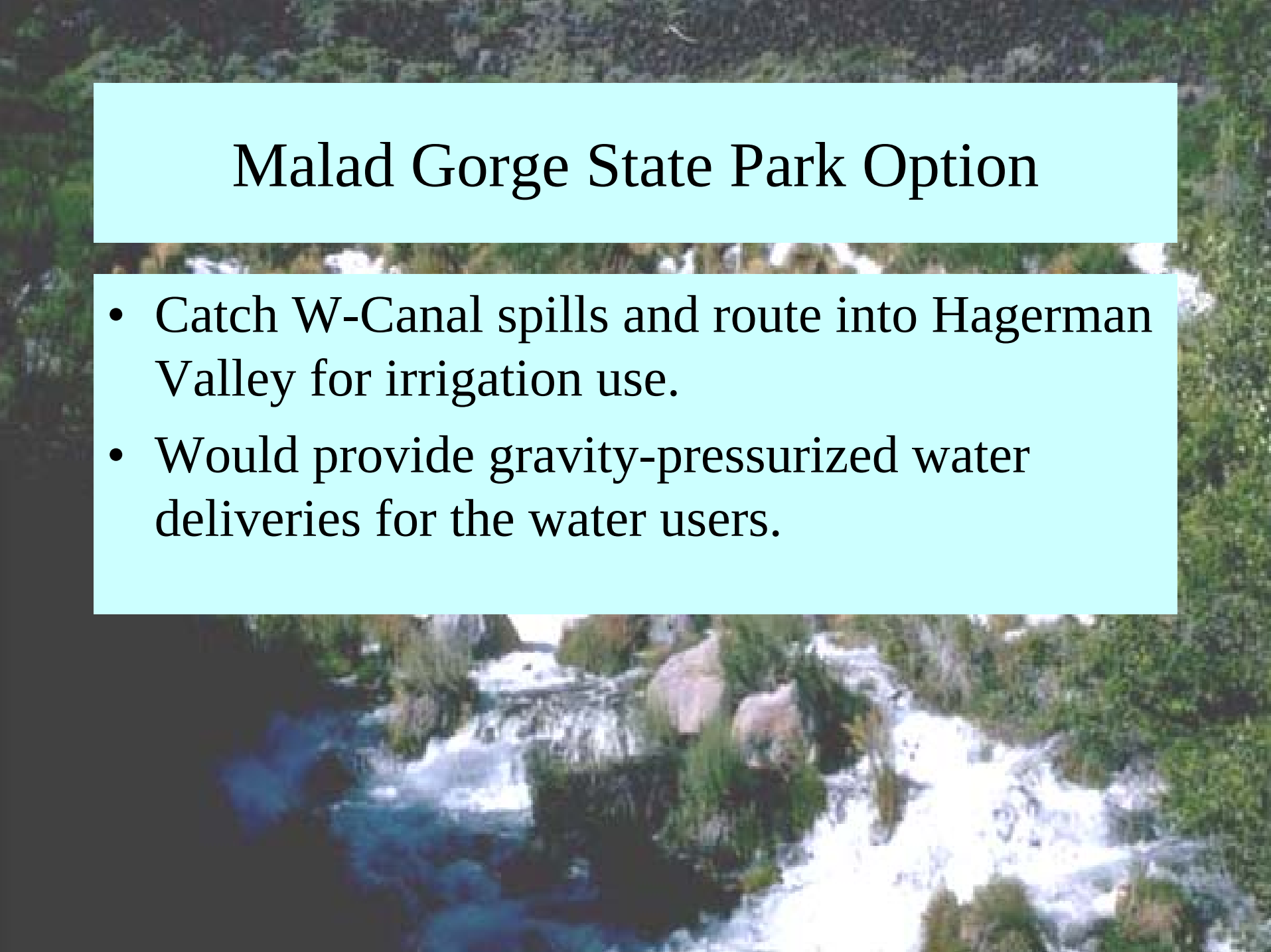
Existing pipeline to deliver water from the North Side Canal System into the Hagerman Valley.

If built, these W-Canal options would be similar.


Malad Gorge State Park Option
Big Springs Option
Weatherby Springs Hoagland Tunnel Option
W-Canal (NSCC)
Big
Wood
Tuttle
Lower Salmon Falls
TWIN FALLS CO
GOODING CO
Hagerman
Big Springs
Springs
UNION
Fossil Gulch
Peters Gulch
Dolman Rapids
Hunt
Bell
Big
Ditch

Malad Gorge State Park Option

- Catch W-Canal spills and route into Hagerman Valley for irrigation use.
- Would provide gravity-pressurized water deliveries for the water users.



Big Springs Option

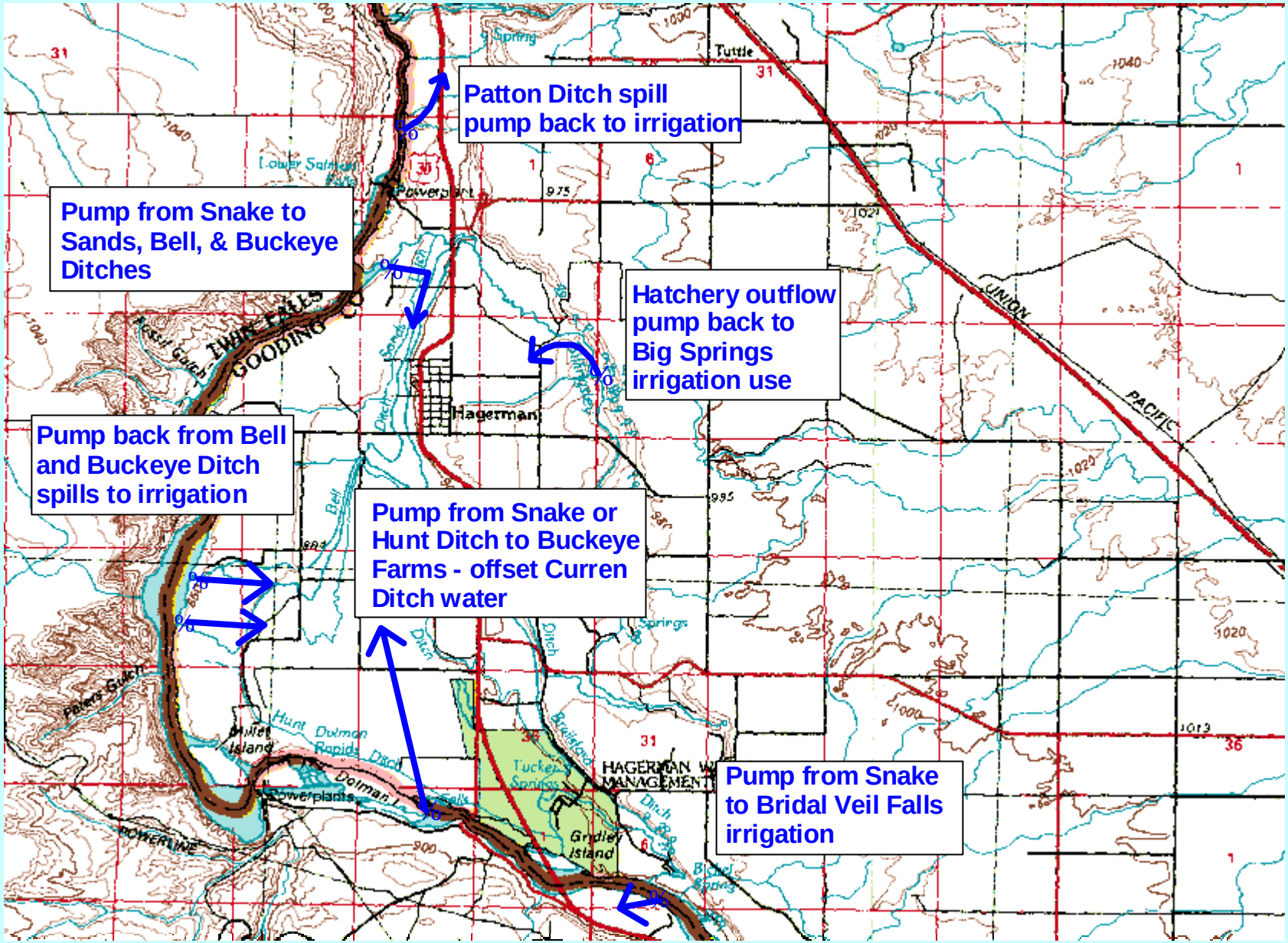
- Deliver W-Canal spills and rental water to irrigation users in the Big Springs area.
- Possibilities include the Hagerman Water Users Association and the Big Springs Water Users Association.
- The Big Springs Water Users pipeline is a combined irrigation and domestic system so provisions for domestic water would have to be made.

Weatherby Springs-Hoagland Tunnel Option

- Deliver W-Canal spills and rental water to irrigation users in the Weatherby Springs-Hoagland Tunnel area.
- Possibilities include delivery of water into Jones Irrigation Pumps, Bar-S Ditch, or Hoagland Ditch.

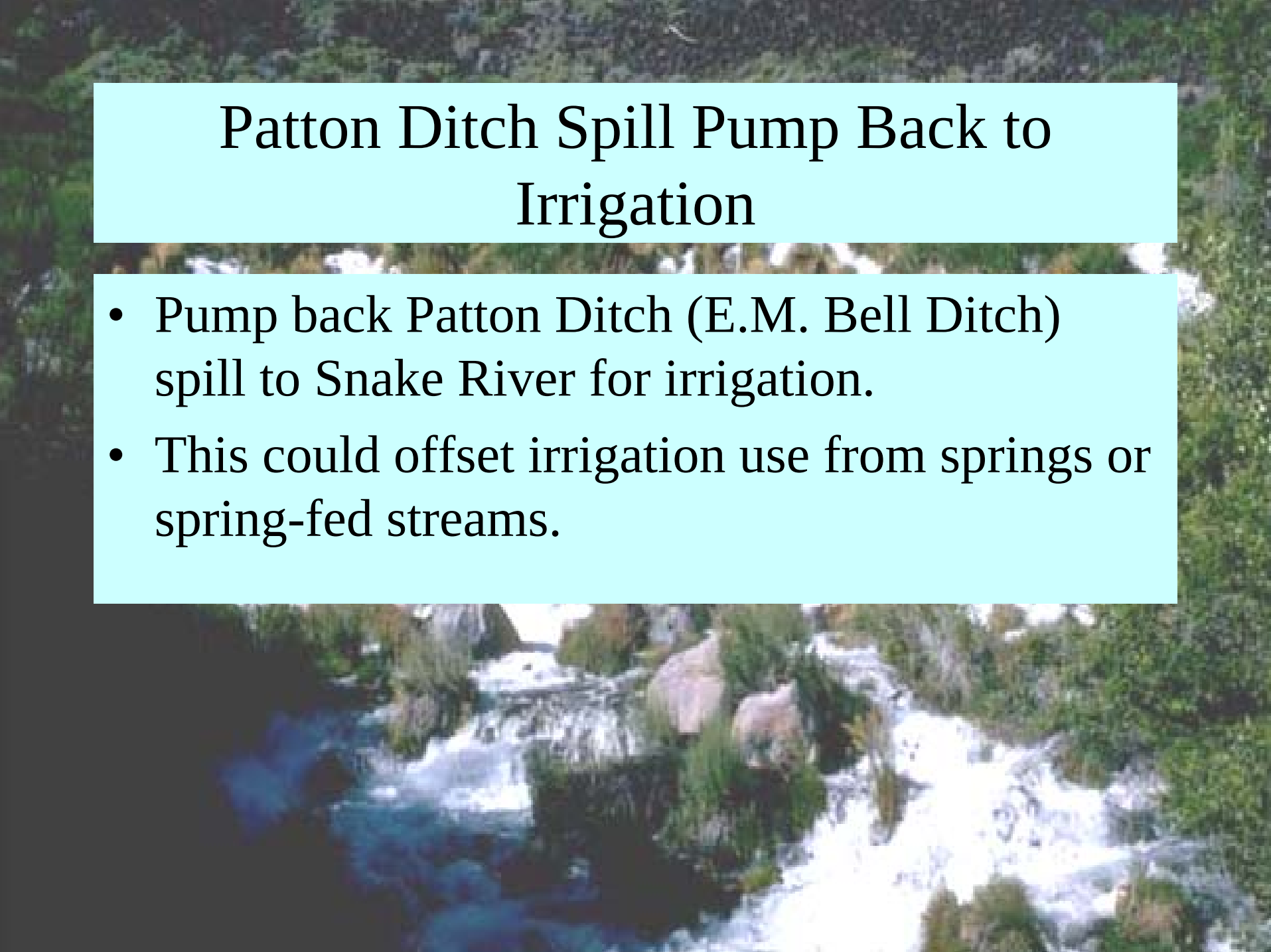
Other Hagerman Valley Options

Pump Back Options


Patton Ditch spill pump back to irrigation
Pump from Snake to Sands, Bell, & Buckeye Ditches
Hatchery outflow pump back to Big Springs irrigation use
Pump back from Bell and Buckeye Ditch spills to irrigation
Pump from Snake or Hunt Ditch to Buckeye Farms - offset Curren Ditch water
Pump from Snake to Bridal Veil Falls irrigation
Tuttle
Powerplant
Lower Salmon Falls
Hagerman
Tucker Springs
Gridley Island
Hunt Dolman Rapids Ditch
Dolman Island
Powerplants
POWERLINE
HAGERMAN WILDLIFE MANAGEMENT
UNION PACIFIC
TWIN FALLS
GOODING

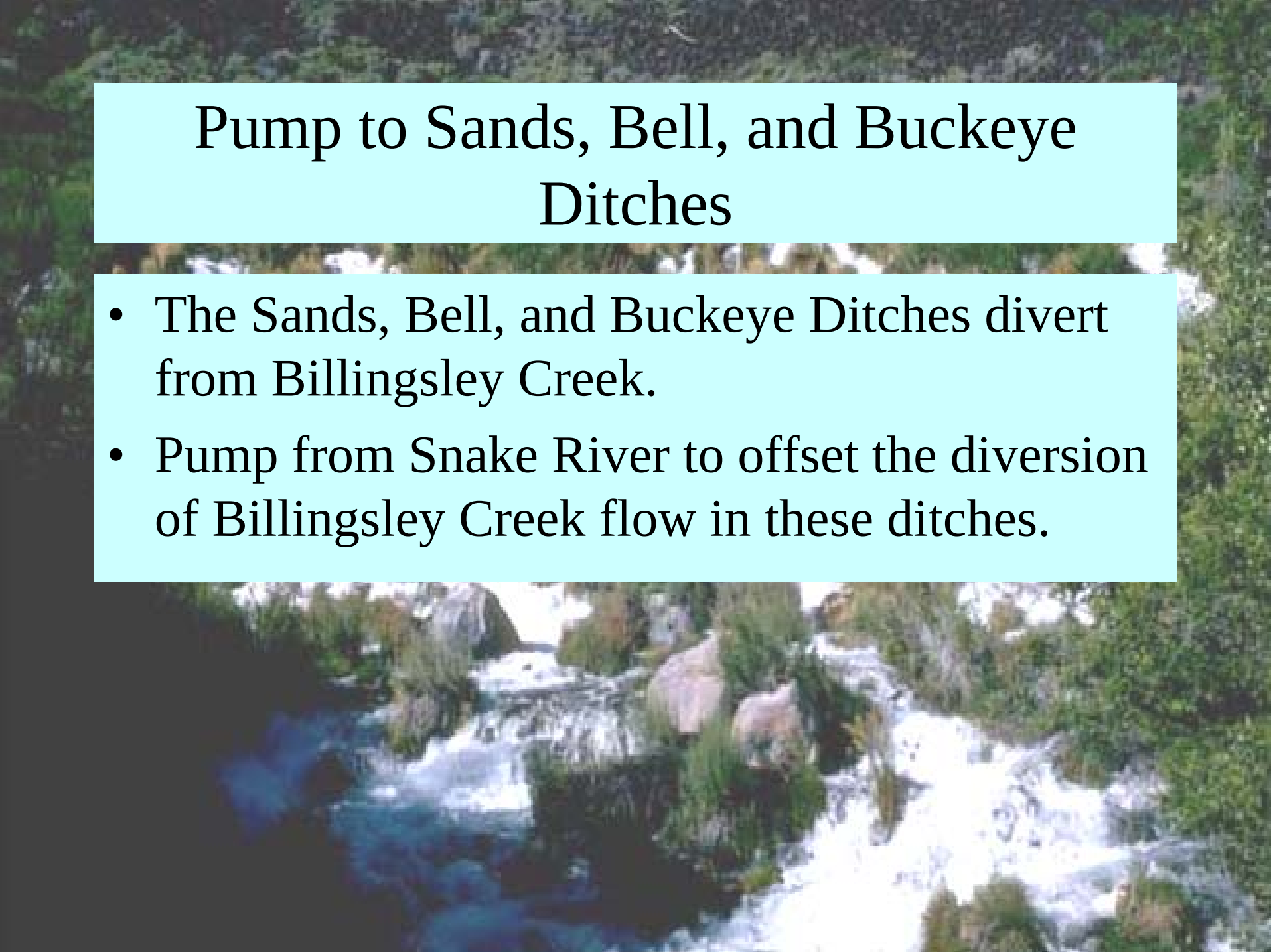
Patton Ditch Spill Pump Back to Irrigation

- Pump back Patton Ditch (E.M. Bell Ditch) spill to Snake River for irrigation.
- This could offset irrigation use from springs or spring-fed streams.



Pump to Sands, Bell, and Buckeye Ditches

- The Sands, Bell, and Buckeye Ditches divert from Billingsley Creek.
- Pump from Snake River to offset the diversion of Billingsley Creek flow in these ditches.

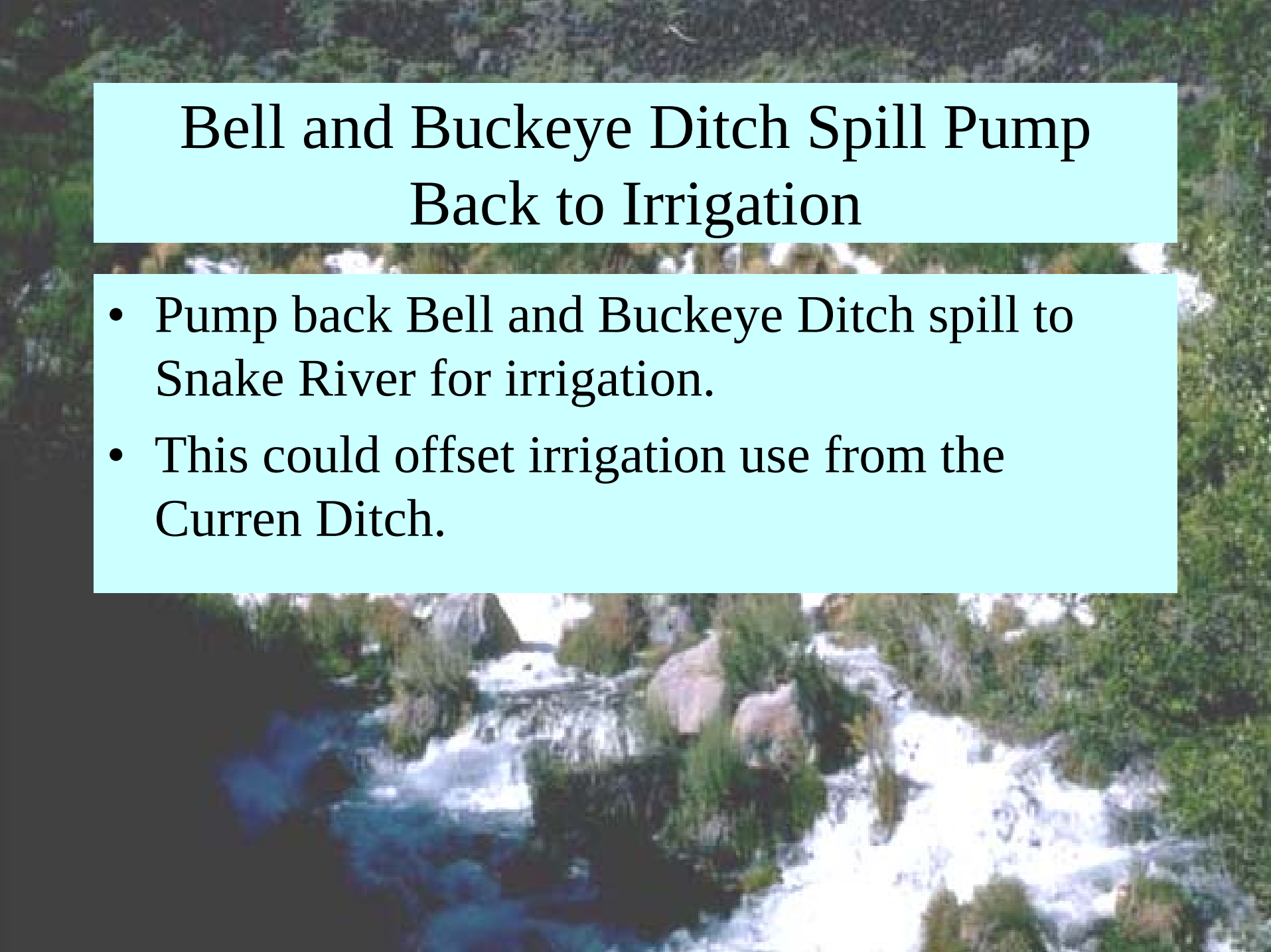


Re-Use Hatchery Outflows for Irrigation in Big Springs Reach

- Pump from hatchery outflows to offset large irrigation use of springs in the Big Springs reach.
- Possible delivery locations include the Hagerman Water Users Association and the Big Springs Water Users Association.
- The Big Springs Water Users pipeline is a combined irrigation and domestic system so provisions for domestic water would have to be made.

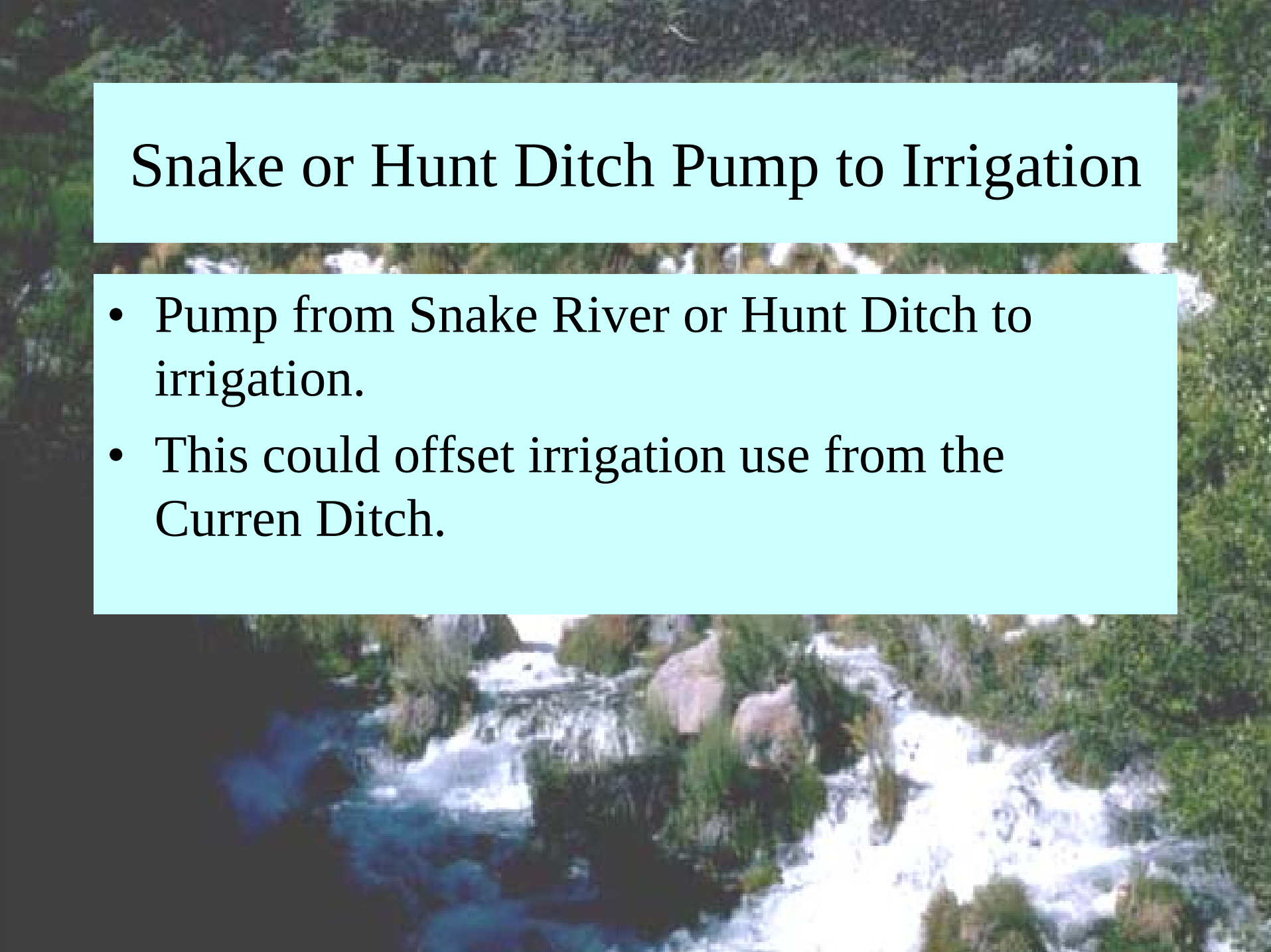
Bell and Buckeye Ditch Spill Pump Back to Irrigation

- Pump back Bell and Buckeye Ditch spill to Snake River for irrigation.
- This could offset irrigation use from the Curren Ditch.



Snake or Hunt Ditch Pump to Irrigation

- Pump from Snake River or Hunt Ditch to irrigation.
- This could offset irrigation use from the Curren Ditch.



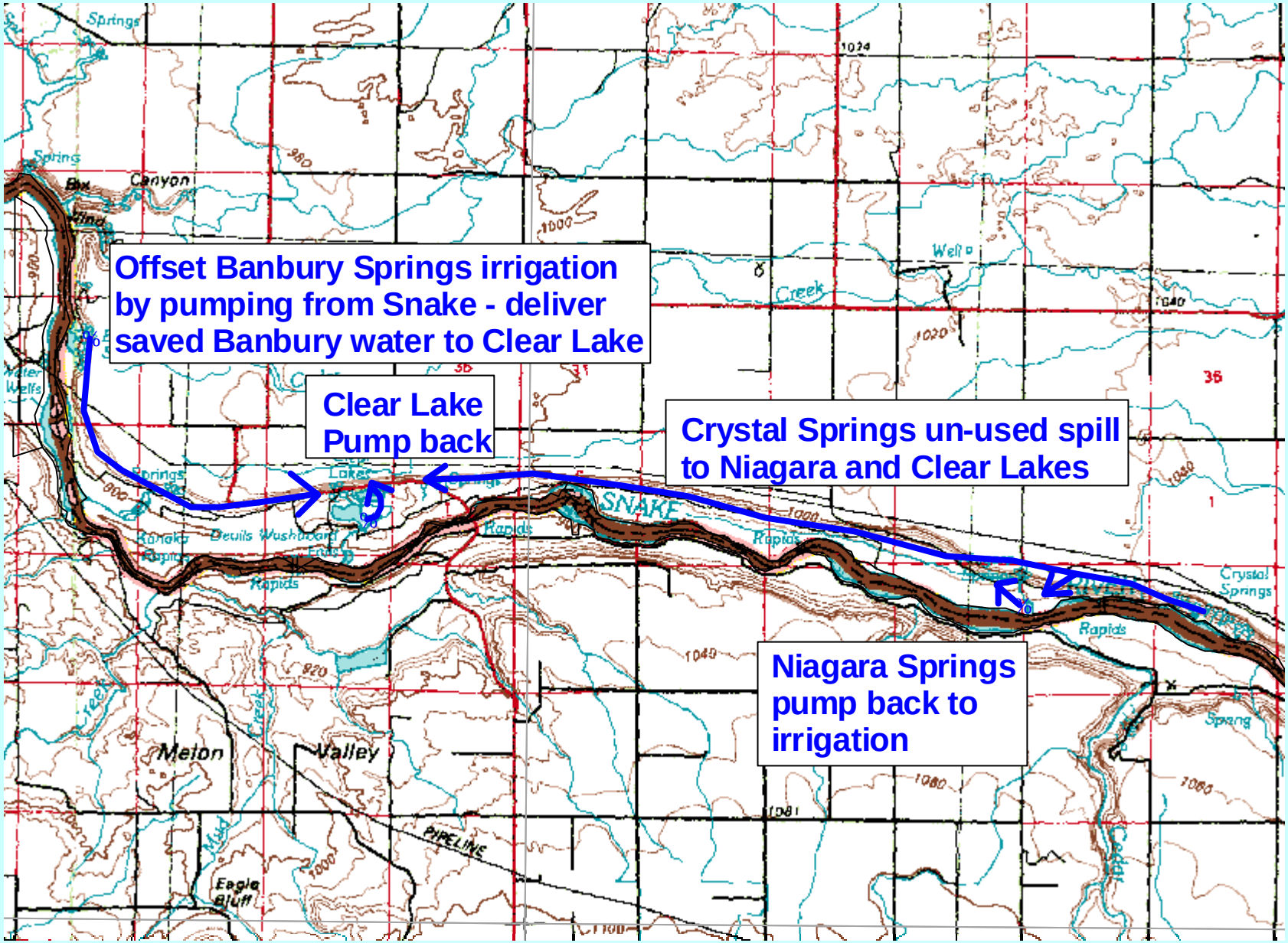
Offset Bridal Veil Falls Irrigation

- Spring flows from Bridal Veil Falls are delivered across the Snake River for irrigation.
- Pump from Snake River for irrigation use to offset use of flows for irrigation.

Clear Lakes – Niagara Springs Area

Pump Backs

Pipelines from other Springs


Offset Banbury Springs irrigation by pumping from Snake - deliver saved Banbury water to Clear Lake
Clear Lake Pump back
Crystal Springs un-used spill to Niagara and Clear Lakes
Niagara Springs pump back to irrigation
SNAKE
Rapids
Crystal Springs
Melon Valley
PIPELINE
Eagle Bluff
Canyon
Creek

Clear Lake Pump Back

- This was specifically included in the Eastern Snake Plain Aquifer agreement as a project to evaluate.
- The concept is to pump water from Clear Lake to the upper end of the hatcheries and blend it with spring water entering the hatcheries.

Niagara Spring Pump Back to Irrigation

- Pump back hatchery outflows up to the IDFG irrigation ditch.
- This would allow all available flow to be used at the hatcheries, then sufficient water for irrigation use would be pumped to the irrigation ditch.

Crystal Springs Spill to Niagara and Clear Lake

- Deliver unused Crystal Springs spill to Niagara Springs users and Clear Lake through a 7-mile long gravity pipeline.
- Unused Crystal Springs spill is held as an instream flow water right by the Idaho Water Resource Board.

Banbury to Clear Lake Pipeline

- Offset Banbury Spring irrigation use by pumping from Snake River.
- Deliver Banbury water to Clear Lake through a pumping plant and a 3-mile pipeline.
- Banbury system is a combined irrigation and domestic system, so provisions for domestic water would have to be made.

Blue Lakes Option

- Replace irrigation use from springs at Blue Lakes Country Club with pumping from Snake River.
- Offset spring water for other uses.

Next Steps

- Rank the possible projects for cost and contribution toward solving the problem.
- Select the most promising projects and complete a more detailed cost and feasibility study.


THINK SNOW!
Questions?